

REMARKS/ARGUMENTS

35 USC §112

The Office rejected claims 1-6, 13-16, and 19-20 as being indefinite for use of the generic term "coffee". The office suggested use of the standard Latin genus-species designator, and the applicant amended the claims accordingly. Support for the amendment is provided, *inter alia*, on page 3, line 16.

The Office further rejected claims 3 and 5, and claim 14 as being indefinite for use of the abbreviation "ppb" and "UV", respectively, without definition of the abbreviations. The office suggested expansion of the abbreviations and the applicant amended the claims accordingly.

The Office also rejected claims 4-5, 13, 15-16, and 19-20 for lack of antecedent basis of the term "coffee cherry preparation". The applicant amended the claim accordingly.

The Office still further rejected claims 8-9 for lack of antecedent basis of the term "the preparation". The applicant amended the claim accordingly.

The Office still further rejected claim 10 for lack of antecedent basis of the term "the class of coffee acid" and rejected claim 11 for lack of antecedent basis of the term "the class of essential monosaccharides". Claim 18 was also rejected for lack of antecedent basis of the term "the formulation". The applicant amended the claim accordingly.

Claims 9 and 10 were rejected for lack of specification of percentage amounts "by weight" or "by volume". The applicant notes that the claims include reference to wt%, which is a well recognized format for specification of percentage by weight.

35 USC §102

- The Office rejected **claims 1-2, 8-10, and 12-14** as being anticipated by Sceopul (FR 153371A). The applicant agrees and amended claim 1.

Anticipation under 35 U.S.C. § 102 requires the presence in a single prior art disclosure of *each and every element of a claimed invention*. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814

F.2d 628, 631, 2 U.S.P.Q.2D (BNA) 1051, 1053 (Fed. Cir. 1987); *Carella v. Starlight Archery*, 804 F.2d 135, 138, 231 U.S.P.Q. (BNA) 644, 646 (Fed. Cir.), *modified on reh'd*, 1 U.S.P.Q.2D (BNA) 1209 (Fed. Cir. 1986); *Jamesbury Corp. v. Litton Indus. Prods., Inc.*, 756 F.2d 1556, 1560, 225 U.S.P.Q. (BNA) 253, 256 (Fed. Cir. 1985); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 U.S.P.Q. (BNA) 481, 485 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 U.S.P.Q. (BNA) 193, 198 (Fed. Cir. 1983).

As amended, claim 1 expressly requires that "...the whole *Coffea spec.* (coffee) cherry used for the composition prepared from whole *Coffea spec.* (coffee) cherry is a ***sub-ripe, non-green, dried Coffea spec. (coffee) cherry*** that has a mycotoxin level of ***less than 20 ppb (part-per-billion) for total aflatoxins, less than 10 ppb for total ochratoxins, and less than 5 ppm for total fumonisins...***". These elements are not taught by Sceopul. Therefore, claims 1-2, 8-10, and 12-14 should not be deemed anticipated by FR 153371A.

- The Office rejected **claims 15-17, and 19** as being anticipated by Sceopul (FR 153371A). The applicant again agrees and amended claim 15.

As amended, claim 15 expressly requires that "...the whole *Coffea spec.* (coffee) cherry used for the composition prepared from whole *Coffea spec.* (coffee) cherry is a ***sub-ripe, non-green, dried Coffea spec. (coffee) cherry*** that has a mycotoxin level of ***less than 20 ppb (part-per-billion) for total aflatoxins, less than 10 ppb for total ochratoxins, and less than 5 ppm for total fumonisins...***". These elements are not taught by Sceopul. Therefore, claims 15-17, and 19 should not be deemed anticipated by FR 153371A.

- The Office rejected **claims 1, 6-7, and 12-14** as being anticipated by Saito et al. (JP 08291018). The applicant respectfully disagrees for various reasons.

First, Saito et al. fail to teach the above amendments to claim 1 and for at least this reason does not render claims 1, 6-7, and 12-14 anticipated. Still further, Saito merely refers to a coffee fruit (among numerous other items) as a known source of caffeine, but ***in no way teaches use of a whole coffee fruit, let alone a dried coffee fruit with specific toxin levels for the preparation of a composition for a cosmetic.*** All Saito et al. teach is use of tea leave waste material or

synthetic caffeine to isolate or prepare purified caffeine. Consequently, Saito et al. should not be deemed anticipating claims 1, 6-7, and 12-14.

- The Office rejected **claims 1-11, and 13-20** as being anticipated by Miljkovic (U.S. Pat. App. No. 2006/0263508) in view of Miljkovic (U.S. Pat. App. No. 2002/0187239). More specifically, the office stated that it would be *deemed inherent* to the '508 disclosure to use the compositions in a cosmetic formulation as the '508 disclosure did not present any reason to preclude its use in such cosmetics. The applicant respectfully disagrees.

First, it is well established that an examiner, in relying on the theory of inherency, must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics *necessarily flow from the teachings* of the applied prior art. See *In re Robertson*, 169 F.3d 743, 745, 49USPQ2d 1949, 1950-51 (Fed. Cir. 1999). The examiner has not provided persuasive support for an inherency theory. Inherency *cannot be established based on conjecture and/or probabilities or possibilities*. See *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ, Appeal No. 2004-0896 Application No. 09/751,774 Page 6323, 326 (CCPA 1981); *Ex parte Skinner*, 2 USPQ2d 1788, 1788-1789(Bd. Pat. App. & Int. 1986).

Second, it should be noted that the '239 fails to provide use of a whole coffee cherry in the use of preparation for a cosmetic composition. On the contrary, the '239 expressly teaches that the coffee cherry materials are waste products from coffee bean production. Consequently, it should be appreciated that (1) the coffee cherry materials are devoid of the bean and thus fail to be a whole coffee cherry, and (2) the coffee cherry materials are obtained from ripe coffee cherries. Clearly, such teaching is contrary to the instantly claimed subject matter.

35 USC §103

- The Office rejected **claims 15-19** as being obvious over Sceopul (FR 153371A) in view of the Free Dictionary by Farlex. With respect to the previously pending claims 15-19, the applicant agrees. However, with respect to the claims as amended herein, the applicant respectfully disagrees.

As is well known, to establish prima facie obviousness of a claimed invention, ***all the claim limitations must be taught or suggested by the prior art***. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Applied to the present instance, amended claim 15 expressly requires that "...the whole *Coffea spec.* (coffee) cherry used for the composition prepared from whole *Coffea spec.* (coffee) cherry is a ***sub-ripe, non-green, dried Coffea spec. (coffee) cherry*** that has a mycotoxin level of ***less than 20 ppb (part-per-billion) for total aflatoxins, less than 10 ppb for total ochratoxins, and less than 5 ppm for total fumonisins...***". These elements are neither taught nor suggested in the cited art. Indeed, Sceopul expressly teaches use of green coffee cherry and points among other items to the high content of legumins, albumins, caffeic, and caffetannic acids that decline during ripening, which teaches away, if not even against the presently claimed subject matter. Still further, Sceopul is entirely silent on the issue of mycotoxins. Therefore, and at least for these reasons, the obviousness rejection of claims 15-19 should be moot in view of the amendments.

- The Office rejected **claims 1-5, 8-10, and 15-20** as being obvious over Sceopul (FR 153371A) in view of Soucy (U.S. Pat. No. 6,202,321), Fabian (U.S. Pat. No. 6,376,001), Olkku et al. (U.S. Pat. No. 6,449,872), and Miljkovic et al. (U.S. Pat. App. No. 2006/0263508), and in further view of Batista et al. (J. Food Microbiol. 2003) and Frank (MYC/CONF/99/6c). The applicant respectfully disagrees, especially in view of the amendments herein.

First, and with respect to Sceopul, the same considerations as provided above apply and are not reiterated here. It should be noted that the remaining cited references fail to remedy the defects pointed out above.

The examiner argued that Batista and Frank would provide motivation to quick-dry the coffee cherry to achieve the claimed levels of mycotoxins as these references would teach the detrimental effect of mycotoxins to the products. However, such is not the case. Indeed, Batista reports incidence and quantity of various mycotoxins and mycotoxin producing strains on various ***processed green coffee beans*** and further describes a conventional manner of ***reducing***

mycotoxin levels by washing with 1% hypochlorite solution. Clearly such manner of reducing mycotoxins on processed coffee beans is not a motivation to quick dry sub-ripe non-green coffee whole fruit as presently claimed, and in fact teaches away from quick-drying the whole fruit.

Similarly, Frank teaches various aspects of processing and safety parameters in the production of coffee beans for commercial use and points to the importance of *rapid and uniform drying of the beans* and to the *elimination of fruit tissues* with the associated microbial load. Clearly, what is harvested and processed in the Frank reference is a ripe coffee cherry, but what is dried are the beans (and as such does not apply to the presently claimed subject matter). Remarkably, Frank expressly teaches on page 7, items (g) and (h) that cherries in a wet state are not prone to *Aspergillus* development and that in some cases *Aspergillus* even increased upon drying, which *clearly fails to provide an incentive for drying the cherry*. With respect to the coffee beans, Frank does report that certain moisture windows appear to be critical, and further correlates those specific windows to the growth and production of ochratoxins *on the beans* (see especially Figure 1, circle labeled 'DRYING' and associated water activity window A_w 0.94 to 0.80). Consequently, it should be clear that Frank is concerned with drying of the beans at these specific windows and not of the entire fruit). Indeed, Frank provides various reasons (*supra*) as to why the whole fruit should not be dried, thereby teaching away, if not even against the claimed subject matter.

With regard to the examiner's reference to Soucy it is noted that Soucy is concerned with *simplified dryers for coffee beans*, which is entirely inconsistent with quick dried coffee cherries and compositions. Soucy teaches on columns 1 and 2 that mold is a problem in conventional and lengthy drying processes for beans, however, such processes fail to qualify as quick-drying, let alone of drying of whole cherries. It is further noteworthy that Soucy's device reduces the mold growth not by virtue of a quick-dry process, but by "...Keeping the *beans in the well-ventilated containers overnight* will decrease the common problem of *mold growing during nightly storage* of the beans..." Once more, the cited reference fails to teach, suggest, or motivate to dry the whole cherries to specified mycotoxin levels. On a finer note, as Soucy dries coffee beans, the corresponding whole cherries are necessarily ripe cherries, which further teaches away from the inventive subject matter.

Similarly, Fabian teaches a method of removing mycotoxins from **green beans** that have been rendered porous using **water vapor or steam** by rinsing the pretreated green beans with an acidified dichloromethane wash. While Fabian is indeed concerned with removal of mycotoxins, it should be pointed out once more that **the mycotoxins are on the bean and not the whole fruit**. Moreover, and contrary to the present claims, the **coffee bean is treated with water** (as vapor or steam) to reduce mycotoxins, which is further contrary to the claims. The same and further defects are found with Olkku et al. that are concerned with **treatment of cereal seeds** in which the kernels are **steam sprayed to remove the fungal pathogens**. Remarkably, Olkku et al also report that certain mycotoxigenic pathogens (*e.g.*, *Aspergillus* and *Penicillium*; Background of the Invention) survive in low moisture contents. Clearly, such report and the steam treatment are contrary to drying, let alone quick drying of a whole coffee cherry to the specified mycotoxin quantities.

With respect to Miljkovic ('508), the applicant agrees that this reference indeed teaches quick-drying a sub-ripe coffee cherry for the purpose of reduction of mycotoxins. However, it should be noted that the **'508 application was commonly owned** at the time the invention was made and therefore does not qualify as a reference under 35 USC 103(c). (Commonly owned by VDF Futureceuticals; for recorded assignment of 2006/0263508, see Reel/Frame 014270/0395; for recorded assignment of instant application, see Reel/Frame 015470/0553).

Therefore, it is pointed out that (in addition to the defects for Sceopul as noted above) all of the cited references secondary to Sceopul fail to teach a dried or quick dried non-green, sub-ripe whole coffee fruit. Indeed, at least some of the references teach that **drying of coffee fruit increases mycotoxins**, and that the **pulp therefore should be removed**. Alternatively, almost all of the **references teach use of water** (in form of steam, vapor, or solvent) to reduce mycotoxin levels (albeit on processed coffee beans), which is also contrary the claimed subject matter. It is clear from the cited art that mycotoxins are undesirable. However, the person of ordinary skill in the art (as evidenced by the cited references) will either avoid drying or resort to remove the pulp to thereby remove the pathogens and toxins, or use water or a solvent to for the same purpose. Consequently, the secondary art fails to provide any suggestion or motivation for combination with Sceopul.

- The Office rejected **claims 1-2, and 6-14** as being obvious over Sceopul (FR 153371A) in view of Drunen et al. (U.S. Pat. No. 6,572,915), Miljkovic et al. (U.S. Pat. App. No. 2002/0187239), Fischer et al. (Colloque Sci. Int. 1998), Clifford et al. (Colloque Sci. Int. 1987), and Coleman et al. (Arch. Biochem. Biophys. 1955), and further view of Pineau et al (U.S. Pat. No. 6,296,856), Huang et al. (Canc. Res. 1988), and Stuckler et al (DE4012148A1).

With respect to Sceopul, the same considerations as provided above apply and are not reiterated here. Once more, it should be noted that the remaining cited references fail to remedy the defects pointed out above.

More specifically, and with respect to VanDrunen it is noted that this reference teaches use of waste products to enrich another agricultural product. As coffee cherry pulp is a waste product from coffee bean production, the cherries are necessarily ripe, which is contrary to the claims. Moreover, it is noted that the '915 patent was commonly owned and therefore does not qualify as a reference under 35 USC 103(c). (Commonly owned by VDF Futureceuticals; for VanDrunen see Reel/Frame 012091/0169; for instant application see Reel/Frame 015470/0553)

Similarly, Miljkovic et al. are concerned with use of by-products that are obtained as a result of processing tropical crops. Therefore, it should be clear that the ***reference fails to teach use of the whole fruit***. Moreover, and even if the reference would teach whole fruit, it would specifically teach the ***fully ripe fruit*** which is contrary to the claimed subject matter.

With respect to Fischer et al. it is noted that this reference teaches chemical composition of ***dry, depulped, and deparched beans*** that were ***harvested at full maturity***. As should be readily apparent, the chemical composition of a bean is not the same as the chemical composition of the fruit with the bean. Similarly, Clifford reports on chlorogenic acid of ***beans and pericarp*** over the period between florescence and full maturity. Moreover, Clifford expressly states that immature beans provide a reduction in product quality, which teaches away from the claimed subject matter. Likewise, Coleman et al. teach chemical analysis of the mucilage layer of a coffee bean that was harvested when ripe. Once more, the mucilage layer is entirely inconsistent with the whole cherry as presently claimed.

Regarding Pineau it is noted that the '856 patent teaches use of selected polysaccharides in dermatological compositions for promotion of desquamation and epidermal renewal, which has absolutely no bearing on the presently claimed subject matter. Similarly, Huang teaches selected effects of certain polyphenolic compounds on tumor promotion in mice treated with a tumor inducer, while Stuckler teaches use of trigonellin in combination with vitamin B6 to promote hair growth.

The applicant notes that the secondary references once more provide all key terms of the rejected claims, however, fail to provide any motivation for their combination such as to arrive at the claimed subject matter. It is again critical to note that the claims expressly require a dried or quick dried non-green, sub-ripe whole coffee fruit with specific mycotoxin levels. Such is clearly not the case with the cited art, neither alone or in any combination. Indeed, all that the cited art provides are a loose collection of terms found in the rejected claims without any specific suggestion or motivation to combine as each of the cited secondary references is concerned with one or another subpart of a coffee cherry, but not with the entire whole fruit. Consequently, the secondary art fails to provide any suggestion or motivation for combination with Sceopul.

- The Office further rejected **claims 1-20** as being obvious over Miljkovic et al. (U.S. Pat. App. No. 2006/0263508) in view of Miljkovic et al. (U.S. Pat. App. No. 2002/0187239). The applicant disagrees for various reasons.

First, and as already pointed out above, Miljkovic ('508) was commonly owned at the time the invention was made and therefore fails to qualify as a reference under 35 USC 103(c). (Commonly owned by VDF Futureceuticals; for cited 2006/0263508 see Reel/Frame 014270/0395; for instant application see Reel/Frame 015470/0553).


Second, Miljkovic et al. ('239) are concerned with use of by-products that are obtained as a result of processing tropical crops. Clearly, the reference *fails to teach use of the whole fruit*. Moreover, and even if the reference would teach whole fruit, it would specifically teach the *fully ripe fruit* which is contrary to the claimed subject matter. Therefore, as Miljkovic ('508) is not available as reference, and as the teachings of Miljkovic et al. ('239) fail to provide each and every element of the claims, the rejection of claims 1-20 should be withdrawn.

Request For Allowance

Claims 1, and 3-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,
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